

PATIENT SATISFACTION AS A MEDIATOR BETWEEN CLINIC SERVICES AND WORD OF MOUTH: AN EMPIRICAL STUDY IN GREATER JAKARTA

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Abstract: In densely populated urban areas like Greater Jakarta (Jabodetabek), outpatient clinics often face disparities in patient visit volumes despite offering similar facilities. This study investigates how perceived service quality, communication, clinic location, and waiting time influence patient satisfaction and word of mouth in a healthcare setting. Using a quantitative approach, data were collected from 393 patients across seven clinics under the same ownership. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to analyze the relationships. Results show that service quality, communication, location, and waiting time significantly influence patient satisfaction, with location and waiting time exerting a direct and significant impact on word of mouth. Meanwhile, communication and service quality affect word of mouth indirectly through satisfaction. Mediation analysis confirms that patient satisfaction significantly mediates the effects of communication, location, and waiting time on word of mouth. However, service quality does not significantly influence word of mouth directly or through satisfaction. The model demonstrates strong validity, reliability, and predictive relevance (R^2 for satisfaction = 0.721; word of mouth = 0.610; SRMR = 0.047), supporting its use as a strategic evaluation tool. The findings highlight that non-technical service aspects, particularly access and timeliness, are key drivers of patient loyalty and informal promotion in urban healthcare services.

Keyword: Service Quality, Communication, Location, Service Waiting Time, Patient Satisfaction, Word of Mouth.

I. INTRODUCTION

Empirical Healthcare services in urban areas such as Greater Jakarta (Jabodetabek) face mounting pressure to deliver fast, high-quality, and accessible care. Although many clinics offer similar facilities and standardized medical services, significant disparities in patient visit volumes are often observed. This suggests that patient decisions are not solely driven by clinical competence or physical infrastructure, but also by non-technical factors such as perceived service quality, communication effectiveness, clinic location, waiting time, and overall patient experience.

Patient satisfaction plays a pivotal role in this dynamic. It functions not only as an outcome of service delivery but also as a psychological and emotional assessment that shapes future patient behavior, especially Word of Mouth. Word of Mouth is considered one of the most influential and trusted forms of promotion in the healthcare sector because it reflects authentic patient experiences. Numerous studies emphasize that interpersonal and emotional elements such as being listened to, respected, and clearly informed—have a significant impact on satisfaction and are more likely to be shared through Word of Mouth (Sihombing & Prasetyo, 2021; Litvin, Goldsmith, & Pan, 2008; Trusov et al., 2009).

In a densely populated and highly competitive region like Jabodetabek where patients have multiple choices and high mobility Word of Mouth and personal experiences become strategis

differentiators. Clinics cannot rely solely on infrastructure or technical capabilities to stand out. Instead, they must understand how intangible service elements influence patient loyalty and behavior.

This issue is particularly relevant in the case of seven clinics operating under the same corporate ownership (PT X). Despite having nearly identical infrastructure, human resources, and clinical offerings, these clinics experience varying patient volumes. Ideally, such uniformity in service provision should result in equal levels of patient visits. However, the observed disparities indicate that other factors—particularly those related to patient experience may play a more decisive role in driving clinic choice.

Empirical studies support this view. Non-technical service dimensions such as responsiveness, empathy, accessibility, and waiting time have been shown to significantly affect patient loyalty and revisit intentions (Parasuraman et al., 1988; Fatimah & Indrawati, 2019; Dewi et al., 2024; Supranto, 2011; Wicaksono & Suryoputro, 2022). These aspects collectively define service quality as perceived by patients, which is central to shaping satisfaction and Word of Mouth in healthcare environments.

METHODS

This study is quantitative research aimed at examining how independent variables influences the dependent variable. The dependent variable in this study is Word of Mouth, considered an effective marketing strategy in healthcare. Based on prior research reviewed in Chapters I and II, the independent variables influencing Word of Mouth are:

1. Patient satisfaction (intervening variable)
2. Perceived healthcare service quality
3. Communication
4. Waiting time
5. Clinic location

Since variables 2 to 5 affect satisfaction, satisfaction is treated as a mediating variable in this model. The object of the study is seven outpatient clinics owned by PT X in Greater Jakarta (Jabodetabek).

Population and Sample

The population includes all outpatient visitors at the seven PT X clinics. The sample size is determined using Slovin's formula, which accounts for a 5% margin of error. Each clinic serves around 1,300 patients monthly, so the total population (N) = 1,300.

Using Slovin's formula:

Thus, the minimum sample size is 306 respondents as a minimum, distributed equally among the clinics: $306 \div 7 \text{ clinics} \approx 44 \text{ respondents per clinic}$. Our, certain respondents are 393 Sample with variants amount each clinic.

Data Collection Method

Primary data was collected using a structured questionnaire based on validated indicators for the following variables:

- Word of Mouth
- Patient Satisfaction
- Service Quality
- Communication
- Waiting Time
- Location

Responses were measured using a 5-point Likert scale. SEM-PLS Model as attachment.

Indicator Variables

Service Quality Variable

Variable	Dimension	Statement	Scale
Service Quality Source: Al-Damen, 2017	Tangible	1. Availability and sophistication of medical equipment	Ordinal
		2. Cleanliness of clinic/hospital facilities	
		3. Comfort of waiting areas	
		4. Appearance of medical and non-medical staff	
	Reliability	1. Ability to deliver promised services accurately	Ordinal
		2. Consistency in service quality	
		3. Accuracy of diagnosis and treatment	
	Assurance	1. Knowledge and competence of medical staff	Ordinal
		2. Friendliness and courtesy of staff	

		3. Sense of safety and trust in the service	
	Responsiveness	1. Speed of service from medical and admin staff	Ordinal
		2. Staff readiness to assist patients	
		3. Ease of obtaining information and assistance	
	Empathy	1. Concern and personal attention to patients	Ordinal
		2. Time availability of doctors/nurses to listen to patient concerns	
		3. Humane and personalized treatment	

Communication Variable

Variable	Dimension	Statement	Scale
Communication Source: Litvin, Goldsmith, & Pan, 2008	Clarity of Information	1. Information provided is easy to understand	Ordinal
		2. Explanations about diagnosis and treatment are clear	
	Empathy & Communicative Attitude	1. Medical personnel show empathy when speaking	Ordinal
		2. Responses to patient questions are friendly and polite	
	Transparency of Information	1. Medical staff answer all patient questions honestly	Ordinal
		2. Risks and benefits of treatments are clearly explained	
	Communication Consistency	1. Information is consistent across staff	Ordinal

	Patient Participation	2. No miscommunication between medical personnel	Ordinal
		1. Patients are involved in decision-making	
	Interpersonal Communication	2. Patient opinions are respected	Ordinal
		1. Interaction feels warm and personal	
		2. Patients feel individually respected	

Location Variable

Variable	Dimension	Statement	Scale
Location Source: Fatimah & Indrawati, 2019	Accessibility	The clinic is easy to reach from home or main activity centers	Ordinal
	Transport Availability	The location is easy to find due to signs or directions	Ordinal
	Clarity of Directions	There are clear signs or directions to the clinic	Ordinal
	Proximity to Other Facilities	The clinic is near public amenities (e.g., ATMs, restaurants, pharmacies)	Ordinal
	Location Safety	The location is safe and comfortable for visitors	Ordinal

Waiting Time Variable

Variable	Dimension	Statement	Scale
Waiting Time Source: George et al., 2017	Perceived Waiting Time	Patient perception of the time spent waiting	Ordinal
	Satisfaction with Waiting Time	Satisfaction with the waiting time before being served	Ordinal
	Waiting Time vs. Expectations	Whether the actual waiting time meets initial expectations	Ordinal

Patient Satisfaction Variable

Variable	Dimension	Statement	Scale
Patient Satisfaction	Outcome Satisfaction	I am satisfied with the results of the service I received	Ordinal
	Overall Satisfaction	Overall, I am satisfied with the services provided	Ordinal
	Expectation Fulfillment	The service met my expectations	Ordinal
	Repeat Visit Intention	I am satisfied and will return to this clinic in the future	Ordinal
	Willingness to Recommend	I am satisfied and willing to recommend the clinic to others	Ordinal
	Positive Experience	I am satisfied because I had a good service experience	Ordinal

Word of Mouth Variable

Variable	Dimension	Statement	Scale
Word of Mouth Source: Tanudjaya, 2014	Talkers	a. I heard about this clinic from friends/family who used the service	Ordinal
		b. People around me often talk about this clinic's service	
	Topics	a. People often discuss the clinic's service quality	Ordinal
		b. Most discussed aspects include speed, friendliness, and comfort	
	Tools	a. I learned about others' opinions through social media or online forums	Ordinal
		b. I saw many reviews or comments about the clinic online	
	Talking Part	a. I have shared my experience using this service in person or online	Ordinal
		b. I actively recommend this service to others	Ordinal

	Tracking	a. I checked other people’s reviews before deciding to visit the clinic	Ordinal
		b. I consider others' opinions when evaluating the quality of the service	

Data Analysis

The data was analyzed using Structural Equation Modeling - Partial Least Squares (SEM-PLS), which allows for examining complex relationships among latent variables. SEM-PLS was chosen due to its suitability for reflective and formative indicators.

Instrument Testing

Validity and reliability tests were conducted using SmartPLS:

- Convergent Validity: Confirmed when outer loadings > 0.70. For exploratory research, loadings ≥ 0.5 are acceptable.
- Average Variance Extracted (AVE): Should be > 0.50. Lower AVE may be accepted if Composite Reliability > 0.60.
- Discriminant Validity: Measured using the Fornell-Larcker Criterion, ensuring the square root of AVE is higher than inter-construct correlations.
- Reliability Testing:
 - Cronbach’s Alpha > 0.60 indicates internal consistency.
 - Composite Reliability (CR) > 0.70 is ideal, though 0.60–0.70 may suffice.
 - ρ_A (rho_A) > 0.70 is considered adequate for alternative reliability in SEM-PLS.

II. RESULT AND DISCUSSION

This study utilizes Partial Least Squares - Structural Equation Modeling (PLS-SEM) as the primary analytical technique. The analysis involves three main stages: (1) measurement model evaluation (outer model), (2) model fit (Goodness of Fit), and (3) structural model analysis (inner model). Each stage is discussed in detail below.

Measurement Model (Outer Model) Evaluation

The outer model is evaluated to assess the reliability and validity of the constructs used in the study. It includes testing for convergent validity, discriminant validity, and construct reliability.

Convergent Validity

Convergent validity was assessed through factor loadings and Average Variance Extracted (AVE). According to the standards by Hair et al. (2017), factor loadings must exceed 0.70, and AVE must be greater than 0.50 (Ghozali, 2021). The results indicate that:

Construct	AVE	Cronbach's Alpha	Composite Reliability	ρ_A
Service Quality	0.674	0.974	0.976	0.975
Communication	0.726	0.966	0.969	0.966
Location	0.712	0.955	0.961	0.957
Waiting Time	0.768	0.939	0.952	0.942
Patient Satisfaction	0.809	0.953	0.962	0.953
Word of Mouth	0.729	0.959	0.964	0.960

- All indicator loadings exceed 0.70, indicating strong indicator reliability.
- All constructs show AVE values > 0.50, thus meeting the requirement for convergent validity.

Discriminant Validity

Discriminant validity was assessed using the cross-loadings method. The results reveal that each indicator loads higher on its associated construct than on other constructs, indicating adequate discriminant validity. Thus, each latent variable more strongly explains its own indicators than others.

Construct Reliability

Reliability was evaluated using Cronbach's Alpha, Composite Reliability (CR), and Dijkstra-Henseler's ρ_A . All three reliability indicators for each latent variable were above the acceptable threshold of 0.70, indicating that the instruments used are consistent and reliable.

Model Fit: Goodness of Fit Evaluation

The model fit was assessed using Standardized Root Mean Square Residual (SRMR). According to Henseler et al. (2014), a model is acceptable when $SRMR < 0.10$ and considered to have a good fit if $SRMR < 0.08$.

Fit Index	Saturated Model	Estimated Model	Threshold
SRMR	0.047	0.047	< 0.08
d_ULS	4.588	4.588	-
d_G	3.357	3.357	-
Chi-Square	6.646.385	6.646.385	-
NFI	0.787	0.787	> 0.70

The analysis yielded:

- $SRMR = 0.047$ for both the saturated and estimated model

This indicates that the model has excellent fit and is appropriate for hypothesis testing.

Structural Model (Inner Model) Evaluation

The inner model was assessed to examine the predictive power of the model and the

relationships between latent constructs.

Coefficient of Determination (R^2)

R^2 values were used to assess the level of variance explained in the dependent variables.

Variable	R^2	R^2 Adjusted	Interpretation	Q^2	Q^2 Interpretation
Patient Satisfaction	0.721	0.718	Moderate	0.575	Strong
Word of Mouth	0.610	0.605	Moderate	0.437	Moderate

- Patient Satisfaction ($R^2 = 0.721$): This value indicates that 72.1% of the variance in patient satisfaction is explained by service quality, communication, location, and waiting time. According to Hair et al. (2017), this represents a moderate predictive power.
- Word of Mouth ($R^2 = 0.610$): This means that 61% of the variance in WORD OF MOUTH is explained by service quality, communication, location, waiting time, and patient satisfaction. This is also classified as moderate.

Predictive Relevance (Q^2)

Predictive relevance (Q^2) was assessed through the blindfolding procedure. $Q^2 > 0$ indicates that the model has predictive relevance.

- Patient Satisfaction: $Q^2 = 0.575 \rightarrow$ Strong predictive relevance
- Word of Mouth: $Q^2 = 0.437 \rightarrow$ Moderate predictive relevance

Thus, the model has adequate predictive accuracy for both endogenous variables.

Direct Effects (Hypothesis Testing)

Direct effects were evaluated using the bootstrapping method. The significance of relationships was determined using t-values (> 1.96) and p-values (< 0.05). Summary of Direct Relationships:

Pathway	β (Original Sample)	t-Statistic	p-Value	Significance
Service Quality $\rightarrow$ Patient Satisfaction	0.249	2.072	0.038	Significant
Communication $\rightarrow$ Patient Satisfaction	0.272	2.402	0.016	Significant
Location $\rightarrow$ Patient Satisfaction	0.181	2.532	0.011	Significant

Waiting Time → Patient Satisfaction	0.237	4.105	0.000	Significant
Service Quality → Word of Mouth	0.107	1.734	0.083	Not Significant
Communication → Word of Mouth	0.112	1.374	0.170	Not Significant
Location → Word of Mouth	0.194	2.537	0.011	Significant
Waiting Time → Word of Mouth	0.194	3.307	0.001	Significant
Patient Satisfaction → Word of Mouth	0.263	3.394	0.001	Significant

These results indicate that most hypotheses regarding service experience and satisfaction are supported. However, service quality and communication do not significantly influence Word of Mouth directly, although they do indirectly.

Indirect Effects (Mediation Analysis)

Mediation effects were tested to determine whether patient satisfaction mediates the relationship between the independent variables (service quality, communication, location, waiting time) and Word of Mouth.

Summary of Indirect Effects:

Indirect Pathway	β (Original Sample)	t-Statistic	p-Value	Mediation Result
Service Quality → Patient Satisfaction → Word of Mouth	0.066	1.652	0.099	Not Significant
Communication → Patient Satisfaction → Word of Mouth	0.071	1.964	0.050	Significant
Location → Patient Satisfaction → Word of Mouth	0.047	2.051	0.040	Significant
Waiting Time → Patient Satisfaction → Word of Mouth	0.062	2.796	0.005	Significant

The results show that patient satisfaction significantly mediates the effects of communication, location, and waiting time on Word of Mouth. However, it does not mediate the effect of service quality.

Interpretation of Hypotheses

Out of 13 hypotheses:

- 10 hypotheses are supported, indicating statistically significant relationships (direct or indirect).
- 3 hypotheses are rejected due to non-significant results (H5, H6, H10).

The findings emphasize the critical role of patient satisfaction as both an outcome and a mediator influencing word of mouth behavior in healthcare services.

III. CONCLUSION

Impact on Patient Satisfaction. The results indicate that all four clinic service dimensions—service quality, communication, location, and waiting time have a positive and significant influence on patient satisfaction. This suggests that improvements in these aspects enhance the overall satisfaction of patients, which is essential for fostering long-term relationships between the clinic and its patients.

Direct Impact on Word of Mouth Among the service dimensions, only location and waiting time demonstrate a direct and significant effect on Word of Mouth. This highlights the importance of accessibility and efficiency of service delivery in influencing whether patients will recommend the clinic to others. In contrast, service quality and communication do not directly impact Word of Mouth but contribute through indirect pathways.

Mediating Role of Patient Satisfaction Patient satisfaction significantly mediates the relationship between communication, location, and waiting time on Word of Mouth. This implies that patients who experience clear communication, convenient access, and minimal waiting times are more likely to engage in positive word-of-mouth behavior. However, patient satisfaction does not significantly mediate the relationship between service quality and Word of Mouth, indicating that quality alone is not sufficient to drive recommendations unless supported by other factors.

Overall Model Validity The structural model demonstrates strong statistical validity and predictive relevance, confirming its robustness. These findings support the model’s applicability as a strategic evaluation tool for enhancing patient satisfaction and loyalty through effective word-of-mouth marketing.

IV. RECOMMENDATION

Enhance Communication Between Medical Staff and Patients: Communication between healthcare providers and patients must be strengthened, including improving interpersonal skills and ensuring consistency in information delivery. Empathy-based communication training for doctors, nurses, and administrative staff should be a regular part of the clinic’s human resource development program.

Leverage Patient Satisfaction to Promote Word of Mouth: Patient satisfaction should be utilized as a driver for word-of-mouth marketing. Clinics can provide channels for patients to leave online reviews, such as on Google Reviews, social media platforms, or through testimonials on the clinic’s official website. Small incentives, such as discounts on follow-up services or vouchers, can also be used to encourage positive Word of Mouth participation.

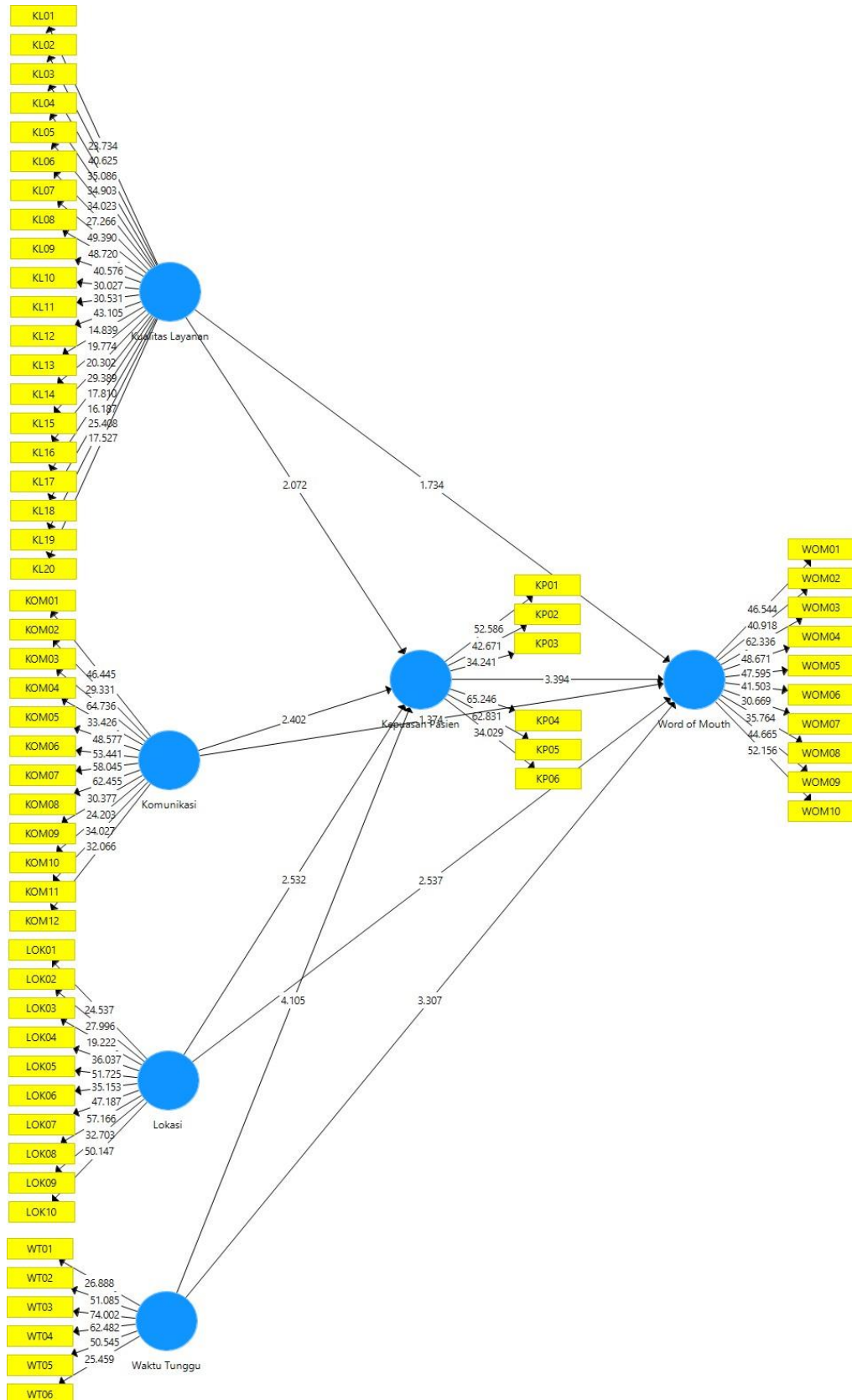
Develop a Routine and Systematic Patient Satisfaction Measurement System: In the long term, clinics are encouraged to establish a regular and systematic patient satisfaction

measurement system as a foundation for service improvement. Simple post-visit surveys or digital feedback forms can serve as effective monitoring tools to maintain service quality and increase patient loyalty.

V. RESEARCH LIMITATIONS

The research design used is cross-sectional, meaning observations were conducted at a single point in time. This limits the researcher’s ability to capture dynamic or long-term changes in patient satisfaction and word of mouth behaviour.

Attachment SEMPLS model:



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